

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A memory device including a memory element comprising:

a memory layer containing 2 at% or more and less than 25 at% of at least one element selected from the group consisting of Ge, Sb, and Bi, 40 at% or more and 65 at% or less of Te, and 20 at% or more and 50 at% or less of at least one element selected from Zn, Au, Ag, Cu, Ti, Zr, Hf, V, Nb, Ta, Cr, Mn, Fe, Co, Ni, Rh, Pd, La, Ce, Pr, Nd, Sm, Eu, Ga, Tb, Dy, and CdZn or Cd, and storing information by causing reversible phase-change between a crystal phase and an amorphous phase; [[and]]

an electrode formed on both surfaces of the memory layer; and

a region adjacent to the memory layer, in which the content of Zn or Cd is higher by 10 at% or more than that of the memory layer.

Claims 2-6. (cancelled)

7. (original) A memory device according to claim 1,
wherein the memory device transmits 30% or more of recording
light or reading light.

8. (currently amended) A memory device comprising:
a plurality of memory cells;
a plurality of word lines for selecting the plurality
of memory cells; and
a plurality of data lines arranged orthogonally to the
plurality of word lines and reading signals from the
plurality of memory cells[[;]],
wherein each of the plurality of memory cells
includes[[:]]
a memory layer containing Ge or Sb, 40 at% or more
of Te, 20 at% or more and 50 at% or less of ~~at least~~
~~one element selected from Zn, Au, Ag, Cu, Ti, Zr, Hf,~~
~~V, Nb, Ta, Cr, Mn, Fe, Co, Ni, Rh, Pd, La, Ce, Pr, Nd,~~
~~Sm, Eu, Gd, Tb, Dy, and CdZn or Cd, and recording~~
information by causing reversible phase-change between
a crystal phase and an amorphous phase; [[and]]
electrodes formed so as to sandwich the memory
layer therebetween for applying a voltage to the memory
layer; and

a region adjacent to the memory layer, in which
the content of Zn or Cd is higher by 10 at% or more
than that of the memory layer.

9. (original) A memory device according to claim 8,
wherein an insulating film is disposed between the memory
layer and one surface of the electrode.

Claims 10-16. (cancelled)

17. (currently amended) A memory device comprising:
a plurality of memory cells;
a plurality of word lines for selecting the plurality
of memory cells; and
a plurality of data lines arranged orthogonally to the
plurality of word lines and reading signals from the
plurality of memory cells[[:]],
wherein each of the plurality of memory cells
includes[[:]]
a memory layer containing Ge, Sb, 40 at% or more
of Te, and 20 at% or more and 50 at% or less of at
least one element selected from Zn, Au, Ag, Cu, Ti, Zr,
Hf, V, Nb, Ta, Cr, Mn, Fe, Co, Ni, Rh, Pd, La, Ce, Pr,
Nd, Sm, Eu, Gd, Tb, Dy, and Cd, and recording

information by causing reversible phase-change between a crystal phase and an amorphous phase; and electrodes formed so as to sandwich therebetween the memory layer for applying the voltage to the memory layer,

wherein an insulating layer is disposed between the memory layer and one surface of one said electrode.

Claim 18. (cancelled)

19. (new) A memory device according to claim 17, wherein the insulating layer is disposed in contact with a negative one of said electrodes.